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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,308	03/22/2001	Alan Paul Rolleston Phillips	ASTB-0044	4836

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EXAMINER

VAN DOREN, BETH

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/814,308

**Applicant(s)**PHILLIPS, ALAN PAUL  
ROLLESTON**Examiner**

Beth Van Doren

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-11 is/are rejected.  
7) ☒ Claim(s) 12-17 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. The following is a non-final, first office action on the merits. Claims 1-17 are pending.

#### *Claim Objections*

2. Claims 12-17 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Claim 12 recites “a controller according to any preceding claim” and then recites “wherein the ranked controller comprises” along with the steps of claim 1. While “a controller according to any preceding claim” would by itself be proper, the further inclusion of all the steps of claim 1 causes an improper multiple dependency. Accordingly, the claim 12-17 have not been further treated on the merits.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites in the preamble “a controller for controlling a system, capable of presentation of a plurality of candidate propositions resulting in a response performance, in order

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to optimize an objective function of the system”. However, the steps in the body of the claim do not recite any limitations or functions that perform or enact controlling a system, optimizing an objective function, or performing any presenting. Instead, the body of claim 1 stores a representation of performance and assesses which candidate proposition, based on the performance, would result in the lowest expected regret. No candidate proposition is chosen or presented. It is unclear how storing and assessing data is related controlling a system and therefore how the body of the claim supports the “controller” of the preamble. Therefore, examiner respectfully submits that the claim does not particularly point out or distinctly claim the Applicant’s invention. Claims 2-11 depend on claim 1. Clarification is required.

6. Examiner points out that claims 12-17 have been objected to as improper multiple dependent claims and therefore have not been further treated on their merits. However, assuming that Applicant will fix the dependency in accordance with this action, Examiner would like to point out that claim 12, as currently written, has 35 U.S.C. 112, second paragraph, issues. Therefore, if claim 12 maintains similar language in an amendment fixing only the dependency issues, claims 12-17 would be rejected as indefinite for the following reasons.

Claim 12 recites a ranked system with a plurality of sub-ranked systems, at least one sub-ranked system having a sub-rank controller (as the one in any of claims 1-11). Claim 12 then recites a ranked controller that controls the ranked system, the ranked controller optimizing an objective function of the system and also comprising the steps of storing and assessing (as recited in claim 1). As discussed with regards to claim 1, it is unclear to the examiner how storing and assessing data performs “controlling”. Therefore, it is unclear how the “ranked controller” of claim 12 would somehow control the ranked system with sub-rank systems since

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the “ranked controller” does not produce an output that results in any controlling. Furthermore, since the steps of storing and assessing are recited both in the ranked controller portion and the sub-rank controller portion, it is further unclear as to what is specifically occurring in the claim and what is the specific relationship between the elements.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Aihara et al. (U.S. 2003/0065603).

8. As per claim 1, Aihara et al. teaches a controller for controlling a system, capable of presentation of plurality candidate propositions resulting in a response performance, in order to optimize an objective function of the system, the controller comprising:

means for storing, according to candidate proposition, a representation of the response performance in actual use of respective propositions (See paragraphs 0003, 0008, 0013, 0038, 0040, and 0056, wherein the system stores response data associated with actual use of advertising options by time and placement);

means for assessing which candidate proposition is likely result the lowest expected regret after the next presentation on the basis an understanding probability distribution of the response performance of all of the plurality of candidate propositions (See paragraphs 0013,

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0019, 0040, 0046, 0099, 0101, 0112, wherein the unexpected loss and/or gain is assessed for the advertising options based on a probability distribution of the performance of each option);

where regret is a term used for the shortfall in response performance between always presenting a true best candidate proposition and using candidate proposition actually presented (See paragraphs 0118, 0247-0250, 0261-0264, and 0276, wherein the shortfall in response is looked at from the perspective of always presenting the true best option versus the actual occurrence of the option presented (i.e. the risk, etc.).

9. As per claim 2, Aihara et al. teaches wherein the assessment means includes means for controlling the growth of the expected regret (See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein assessment determines the volatility of an option by considering the AR and standard deviation and chooses an option that minimizes the size of the risk).

10. As per claim 3, Aihara et al. discloses wherein the assessment means assesses which proposition is likely result in the lowest expected regret on the basis of an optimal candidate proposition which has the mean of said probability distribution (See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein assessment determines volatility of an option by considering the AR and standard deviation and chooses an option with the mean of risk).

11. As per claim 4, Aihara et al. discloses wherein assessment means evaluates the cost or losses associated with presenting a sub-optimal candidate proposition and the gain benefit associated with knowing the true position of the optimal candidate proposition on said probability distribution (See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein the assessment evaluates the loss of presenting a sub-optimal option and the gain associated with knowing the position of the optimal option based on a probability distribution).

12. As per claim 5, Aihara et al. discloses wherein the assessment means assesses which proposition likely to result lowest expected regret according an assumption that the current best observed proposition is assumed to have zero uncertainty around its mean or expected response performance (See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein the volatility/deviation is minimized with zero uncertainty being the ideal situation).
13. As per claim 7, Aihara et al. teaches wherein the assessment means uses Monte Carlo algorithm provide understanding of the probability distribution of the response performance of all of the plurality of candidate propositions and either selects the proposition that contributes most to the expected regret estimate, selects a proposition with probability proportional its contribution to the expected regret estimate (See paragraphs 0230, 0243-0244, and 0276, which discloses using the Monte Carlo simulation for the assessment).
14. As per claim 8, Aihara et al. disclose a controller further comprising temporal depreciation means for applying a temporal depreciation factor to the stored representations of the response performance in order to depreciate the significance of the representations over time (See figure 2 and paragraphs 0008, 0013, 0118, 0096, 0261-0264, wherein, based on the time of display of the option, a reduction factor is applied. For example, a weather value associated with time is shown in 0247-0250).
15. As per claim 9, Aihara et al. discloses a controller further comprising means for forcing the presentation of each candidate proposition a minimum number of times or at a minimum rate (See figures 2 and 7, paragraphs 0042, 0046, 0096, 0247-0250, 0261-0264, wherein the assessment is based on the presentation of the candidate option).

16. As per claim 10, Aihara et al. teaches wherein the temporal depreciation means, for each candidate proposition, applies a different temporal depreciation factor to the stored representations the response performance thereof (See figure 2 and paragraphs 0008, 0013, 0118, 0096, 0261-0264, wherein, based on the time of display of the option, a reduction factor is applied. For example, a weather value associated with time is shown in 0247-0250).

17. As per claim 11, Aihara et al. teaches wherein the candidate proposition is a candidate action option and the presentation thereof comprises a selection (See paragraphs 0013, 0019, 0099, 0101, 0112, 0247-0250, wherein the suggested options are for action (i.e. presenting advertising) and the selection of an option causes the presentation).

***Claim Rejections - 35 USC § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over.

19. As per claim 6, Aihara et al. teaches wherein the assessment means assesses which proposition is likely to result the lowest expected regret according a statistical distribution and the evaluation of parameters as the basis for estimating probabilities of unequal or equal response states between the proposition with the current expected best response and any other candidate proposition (See at least paragraphs 0099-0101, 0113-0118, 0187, 0224-0230).

However, Aihara et al. does not expressly disclose an assumption of a Student's distribution and evaluation of Student's t parameters.



Student's t-distribution is an old and well-known statistical distribution method in the art of statistics that is used when considering standard deviation with a sample taken from a population of data. Since Aihara et al. teaches considering a standard deviation in a population of observed data when choosing an optimal advertising option, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a Student's t-distribution when considering the standard deviation in order to reduce the risk in an advertisement transaction by considering the appropriate standard deviation. See paragraphs 0005-0008 and 0099.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cohen et al. (U.S. 2003/0144907) discloses determining an evaluating an offer to be presented to an offeree.

Smith (U.S. 2002/0111847) teaches determining marketing options based on measurements concerning customers.

Blume et al. (U.S. 6,389,682) discloses modeling customer behavior.

Carruthers et al. (U.S. 2002/0128904) discloses selecting an option to deliver content to users based on expected values.

Avenue A, Inc. ([www.avenuea.com](http://www.avenuea.com)) teaches tools for web marketing, customer interaction, and promotion placement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (703) 305-3882.

The examiner can normally be reached on M-F, 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*bvd*

bvd

January 18, 2005

  
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